

**REMARKS**

Claims 1-42 are pending in the application. The Examiner objected to the specification and objected to claims 3,6,30 and 39. Claims 1-42 stand rejected. The Examiner's objections and rejections are addressed below in substantially the same order as in the office action.

**CLAIM OBJECTIONS & SPECIFICATION**

The Examiner objected to Claims 3, 6, 30, and 39 because of several stated informalities. Applicant has corrected these claims as suggested by the Examiner. Also, Applicant has amended the specification as suggested by the Examiner. Applicant believes that the corrections to the claims and specification resolve the stated objections to same.

**CLAIM REJECTIONS****REJECTIONS UNDER 35 USC § 102****1. Headworth**

The Examiner rejected Claims 1-9, 12-14, 16-32, and 34-42 as being anticipated by US patent 6,772,840 to Headworth. The Examiner contends that Headworth discloses a system and associated flow assurance method for injecting one or more additives into production fluid produced by at least one subsea well. The Examiner specifically contends that the Headworth system has (i) an inherent surface chemical supply unit for supplying at least one chemical to a selected subsea location; (ii) at least one chemical supply line for carrying the at least one chemical from the surface to the selected subsea location and a (iii) subsea chemical injection unit at the selected subsea location that selectively injects the chemical into the production fluid.

Applicant respectfully submits that Headworth does not disclose a subsea chemical injection unit as recited by the claim 1. To Applicant's reading the pipe 70 is part of a subsea tie back system that is conveyed along the flow bore of a flowline 50. Col. 11, lines 10-12. The pipe 70 appears to be a passive element that does not actively pump chemicals into the production fluid. Rather, to Applicant's reading, the pipe 70 is a conduit for

chemicals pumped from the surface. Applicant believes that the specification to the instant application clearly describes a "chemical injection unit" as a device that actively pumps a chemical into the production. Thus, Headworth does not disclose a subsea chemical injection unit as recited by the claims. Moreover, the telescopic tubular arrangement disclosed in Headworth clearly prevents a modification of the disclosed system to use a subsea chemical injection unit. Thus, Headworth also does not suggest a chemical injection unit as recited by the claims. To clarify the function of the subsea chemical injection unit, claim 1 has been revised to recite that the chemical injection unit injects a chemical by pumping. Because Headworth neither anticipates nor obviates claim 1, Applicant submits that claim 1 is in condition for allowance.

Claims 2-9, 12-14, and 16-29 depend from claim 1, a claim believed to be in condition for allowance. Accordingly, Applicant submits that 2-9, 12-14, and 16-29 are allowable on at least those grounds.

## 2. Kohl et al.

The Examiner rejected Claims 36-42 as anticipated by US Patent 6,663,361 to Kohl et al. The Examiner contends that Kohl et al disclose a system for injecting a chemical into formation fluid produced by at least one subsea well, comprising: (i) a chemical supply system for supplying a desired chemical; and (ii) an underwater chemical injection unit injecting chemical into the formation fluid produced by the at least one subsea well. Kohl discloses pump arrangements that can be used in a subsea environment. However, Kohl only teaches locating a supply source on the sea floor (col. 5, lines 31-33). While Kohl teaches that the pump can be integral with the supply source, Kohl has no suggestion as to other locations for the supply source. Claim 36 has been amended to clarify that the chemical supply is at the surface, which is neither taught nor suggested by Kohl. Thus, claim 36 is not anticipated or obviated by Kohl.

Claims 37-42 depend from claim 36, a claim believed to be in condition for allowance. Accordingly, Applicant submits that claims 37-42 are allowable on at least those grounds.

**REJECTIONS UNDER 35 USC § 103****1. Claims 10, 11 and 33**

The Examiner rejected Claims 10, 11, and 33, as being unpatentable over Headworth in view of US Patent 6,640,900 to Smith. Claims 10 and 11 depend from independent claim 1 and claim 33 depends from independent claim 33. Applicant believes that these two independent claims are in condition for allowance and, therefore, dependent claims 10,11 and 33 are also in condition for allowance. Furthermore, Applicant submits that Headworth and Smith cannot be properly combined because the teachings of Headworth and Smith are diametrically opposite. Headworth positions a flowline inside a production string where as Smith positions a flowline outside of the production string. The relative location of the flowline has technical significance. Smith itself makes this point: "The present invention requires that the alternative path conduit be installed during completion of the well. Consequently, the installation of the alternative path conduit must be coordinated with the setting and grouting of the well structure." (col. 6, lines 57-60, emphasis added). Moreover, Headworth specifies the elements required at the surface to utilize the inner pipe 70: power supply, surface processor, coiled tubing reel, injector head unit, blowout preventers, etc. (col. 17, lines 29-36). Clearly, this equipment cannot fit on a buoy described by Smith. Since Headworth and Smith disclose technically incompatible systems, one skilled in the art would not combine these references as done by the Examiner. Accordingly, claims 10,11 and 33 are not obviated by Headworth and Smith.

**2. Claim 15**

The Examiner rejected Claim 15 as being unpatentable over Headworth in view of US patent 6,281,489 to Tubel et al. Claims 15 depends from independent claim 1. Applicant believes that independent 1 is in condition for allowance and, therefore, dependent claim 15 is also in condition for allowance.

3. Claims 1-42: Chen in view of Headworth or Kohl

The Examiner rejected claims 1-42 are rejected as being unpatentable over US patent 6,196,314 to Chen in view of Headworth or Kohl et al.

*Claims 1, 30, and 36.* For these claims, the Examiner contends that Chen teaches a system and associated flow assurance method for injecting one or more additives into production fluid produced by at least one subsea well, the system comprising, in part, "an inherent surface chemical supply unit for supplying at least one chemical to a selected subsea location (inherent because the chemicals must come from the surface before being introduced subsea)." Further contending that "either Headworth or Kohl et al teach a system and associated flow assurance method for injecting one or more additives in production fluid produced by at least one subsea well similar to that of Chen," the Examiner rejected the independent claims 1, 30 and 36 as obvious in view of the combined references.

Applicant submits that it is improper to combine Chen, Headworth and Kohl to reject the pending claims. References can only be combined if there is some suggestion or motivation for the combination. For the reasons discussed below, neither the cited references or any other prior art of record has such a suggestion.

First, the system of Chen is entirely self-contained on the subsea floor (see Fig. 1). The chemical supply 138 is at the sea floor next to the chemical control unit 136. Chen has no expressed or implied need for moving the chemical supply 138 to the surface.

Second, Headworth has several relevant technical differences vis-à-vis Chen. First, as previously explained, Headworth does not have a subsea chemical injection unit but only an inner pipe 70 for conveying fluids through a production tubular. Thus, Headworth does not disclose a system that can even use a subsea chemical injection unit. Moreover, because Chen injects fluid into an injection well whereas Headworth conveys fluid into a production well (Abstract), Chen and Headworth teach different and inherently

incompatible methods of conveying fluids into a formation fluid. Thus, one skilled in the art has no motivation to combine Chen and Headworth in the manner suggested by the Examiner because of the significant differences in the components used and the methodology in employing those components.

Third, Chen even when combined with Kohl does not disclose a surface location for the supply source and a line from the surface location to the subsea injection unit. Because the combination of Chen and Kohl is missing an element expressly recited in the amended claims, this combination does not obviate claims 1, 30 and 36.

For the above reasons, Applicant respectfully submits that claims 1, 30 and 36 as amended are in condition for allowance. Additionally, Applicant respectfully submits that all claims dependent, namely claims 2-29, 31-35, and 37-42, thereon are also in condition for allowance.

**CONCLUSION**

For all the foregoing reasons, Applicant submits that the application is in a condition for allowance. No fee is believed due for this paper. The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 02-0429 (194-26936-US)

Respectfully submitted,

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**CERTIFICATE OF FACSIMILE TRANSMISSION**

I do hereby certify that this correspondence is being transmitted via facsimile, to the Commissioner for Patents, Examiner Thomas S. Bomar, facsimile no. (571) 273-8300, on this 9<sup>th</sup> day of November 2005.

  
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